REMARKS:

In view of the foregoing amendments and the following remarks, reconsideration and withdrawal of the outstanding Office Action rejections is respectfully requested.

Restriction Requirement

As an initial matter, Applicants confirm the provisional election of claims 1, 2, 7, 11, 13, and 15-22 and the election of the species of picolinafen plus cloquintocet plus tritosulfuron, with traverse. Applicants note that the fields of search in the classification system for the various restricted and elected species will likely overlap, and thus there will be no undue burden on the Examiner to rejoin the restricted and elected species, and such rejoinder is requested.

Claim Rejections under 35 USC § 112, first paragraph

The Examiner has rejected claims 1, 2, 11, 15, 16, 19, 20 and 22 under 35 USC § 112, first paragraph, as failing to comply with the written description requirement. The Examiner states that the specification does not disclose data supporting the synergistic combinations of A and B and that there are no working examples of the claimed compositions. The Examiner then concludes that undue experimentation is required to determine which ratios and amounts of ingredients would yield synergistic results. Applicants traverse.

The Examiner has improperly made this rejection. First, Applicants note that the "undue experimentation" standard is completely unrelated to the written description requirement; rather, it is related to enablement, which is an entirely separate requirement.

Second, Applicants note that it is not necessary to provide a working example to satisfy the written description, and, even if there was such a requirement, a use example is provided on pp. 60-61 of the specification as filed. This example also addresses how one of skill in the art would determine if synergism is present in an herbicidal mixture. Therefore, the Examiner has not made a proper showing of lack of written description regarding these rejected claims, and, even if he had, the specification provides written description support for the claimed subject matter.

In addition, regarding the Examiner's comments directed to the synergistic data, Applicants attach to this response, as Attachment A, Tables 1, 2 and 3, along with an "Example" page which discloses how the data in the Tables was generated. The data in the Tables shows the synergistic effect produced by combining the claimed compounds.

Therefore, this rejection is an error and should be withdrawn.

Claim Rejections under 35 USC § 102(b)

The Examiner has rejected claims 1, 2, 11, 15, 19, 20 and 22 under 35 USC 35 USC § 102(b) as being anticipated by Anon (Research Disclosure 451014; attached to the Office Action). The Examiner argues that Anon teaches a co-herbicide composition comprising picolinafen and tritosulfuron. Applicants traverse.

Anon appears to be a bibliographic entry from the Chemistry Abstract Service database. It teaches that herbicides generally can be mixed together to form synergistic agrochemicals. Anon also discloses the structures of picolinafen and tritosulfuron. Anon does not specifically teach that picolinafen and the specific sulfonylureas (B) of the claims,

in particular tritosulfuron, can be mixed together, or that any such mixture would result in a synergistic combination. Therefore, Anon does not teach at least all of the elements of independent claim 1, and cannot anticipate claim 1 or any of its dependent claims. The Examiner seems to acknowledge this in the obviousness rejection, in which he completely contradicts what he said in reference to the anticipation rejection, instead taking the position that Anon does not teach a formulation comprising picolinafen and tritosulfuron. Therefore, this rejection is an error and should be withdrawn.

Claim Rejections under 35 USC § 103(a)

The Examiner has rejected claims 1, 2, 7, 11, 13 and 15-22 under 35 USC 35 USC § 103(a) as being rendered obvious by Anon (Research Disclosure 451014; attached to the Office Action) in view of Baltruschat (US Patent No. 6,683,027). Anon is discussed above. Baltruschat is directed to synergistic herbicidal compositions. The Examiner argues that, while Anon does not disclose a formulation comprising a combination of picolinafen and tritosulfuron, Baltruschat does suggest this composition, and that one of skill in the art would combine the two disclosures to arrive at the presently claimed subject matter. Applicants traverse.

Baltruschat teaches that there are synergistic effects between certain 2-phenyl-4-(hetero)aryloxypyrimidine herbicides and other herbicides (2) – comprising picolinafen and certain sulfonylurea herbicides – which are active against broadleaf weeds and/or annual grasses. 2-Phenyl-4-(hetero-)aryloxypyrimidine herbicides are structurally significantly different from picolinafen, and there is no reason for one of skill in the art to expect that certain of the compounds that would show a synergistic effect with these compounds would

also show a synergistic effect with picolinafen. In addition, there is absolutely no suggestion in Baltruschat, as to which of the various additional herbicides (2) would show a synergism with picolinafen. In addition, Baltruschat teaches that a 2-phenyl-4-(hetero-)aryloxypyrimidine herbicide is a necessary component to achieve a synergism with the specific herbicides (2). There is no suggestion to one of skill in the art from the Baltruschat disclosure that you can eliminate an essential component of the herbicidal mixture and still have the expectation that the remaining components would again form a synergistic formulation. In addition, there is no teaching in Anon that would assist in picking the compounds of group B from the long list of components (2) in Baltruschat to combine with picolinafen. Clearly, the Examiner's reasoning is based on improper hindsight, and there is no prima facie case of obviousness.

In addition, the use example in the specification, and in particular the enclosed additional examples, discussed above, demonstrate an unexpected synergistic effect of mixtures of picolinafen with tritosulfuron, flupyrsulfuron and sulfosulfuron. Therefore, even if the Examiner has made a proper prima facie showing of obviousness, Applicants have rebutted it with this showing. Consequently, this obviousness rejection should be withdrawn.

In view of the foregoing, it is submitted that the present application is now in condition for allowance. Reconsideration and allowance of the pending claims are requested. The Director is authorized to charge any fees or credit any overpayment to Deposit Account No. 02-2135.

Respectfully submitted,

By /Carolyn L. Greene/

Carolyn L. Greene
Attorney for Applicant
Registration No. 57,784
ROTHWELL, FIGG, ERNST & MANBECK
1425 K. Street, Suite 800
Washington, D.C. 20005
Telephone: (202) 783-6040

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Examples

The herbicidal activity of the synergistic combinations of the invention, comprising picolinafen (A) and tritosulfuron (B), was demonstrated by the following post-emergence greenhouse experiments:

The culture containers used were plastic flowerpots containing loamy sand with approximately 3.0% of humus as the substrate. The seeds of the test plants were sown separately for each species.

The test plants were first grown to the a height of 3 to 15 cm, depending on the plant habit, and only then treated with the active compounds which had been suspended in water. The test plants were for this purpose either sown directly and grown in the same containers, or they were first grown separately as seedlings and transplanted into the test containers a few days prior to treatment.

Depending on the species, the plants were kept at 10-25°C or 20-35°C. The test period extended over 2 to 4 weeks. During this time, the plants were tended, and their response to the individual treatments was evaluated.

The evaluation was carried out using a scale from 0 to 100. 100 means no emergence of the plants, or complete destruction of at least the aerial parts and 0 means no damage, or normal course of growth.

The plants used in the greenhouse experiments were of the following species:

Scientific Name	English Name
Galium aparine (GALAP)	cleavers
Polygonum convolvulus (POLCO)	wild buckwheat
Sonchus arvensis (SONAR)	field sowthistle
Triticum aestivum (TRZAW)	winter wheat
Tripleurospermum inodorum (MATIN)	scentless mayweed
Lamium purpureum (LAMPU)	red deadnettle
Papaver rhoeas (PAPRH)	red poppy
Veronica persica (VERPE)	speedwell
Agnostis spica-venti L (APESV)	loose silky bent
Zerna inermis (BROIN)	Hungarian brome
Alopecurus agrestis L. (ALOMY)	black twitch

As the following tables 1, 2 and 3 show, the synergistic combination of the invention shows synergistic effects and excellent herbicidal activity in post-emergence treatment and at the same time a good selectivity for crop plants winter wheat (TRZAW).

Table 1:

		Post Emergence Treatment							
		solo application				combination		Synergism	
		Picolinafen (A)		Tritosulfuron (B)		(A) + (B)		expected	Synergism
weed	DAT	use rate g ai/ha	% activity	use rate g ai/ha	% activity	use rate g ai/ha	% activity	% activity	Y/N
TRZAW	20	100	10	50	0	100 + 50	5	10	N
POLCO	20	100	80	50	80	100 + 50	98	96	Y
SONAR	20	100	30	50	35	100 + 50	70	55	Y
								0	
TRZAW	20	100	10	12,5	0	100 + 12,5	5	10	N
MATIN	20	100	50	12,5	40	100 + 12,5	90	70	Y
POLCO	20	100	80	12,5	75	100 + 12,5	98	95	Y
SONAR	20	100	30	12,5	15	100 + 12,5	60	41	Y
TRZAW	20	50	5	50	0	50 + 50	5	5	N
POLCO	20	50	65	50	80	50 + 50	98	93	Y
GALAP	20	50	60	50	95	50 + 50	100	98	Y

Picolinafen was used as the commercial formulation Pico (75%, WG).
Tritosulfuran (B) was used as the commercial formulation Blathlon (71,4%, WG).

Synergism was determined according to the Colby formula as specified in the description.
The combination (A) + (B) shows excellent activity against weeds and a good selectivity for crops (TRZAW).

Table 2:

	Post Emergence Treatment							
	solo application				combination		Synergism (A) + (B)	
	Picolinafen (A)		Sulfosulfuron (B)		(A) + (B)			
weed	use rate g al/ha	% activity	use rate g al/ha	% activity	use rate g al/ha	% activity	expected % activity	Synergism Y/N
TRZAW	100	15	2,5	0	100+2,5	0	15	safening
APESV	100	40	2,5	60	100+2,5	80	76	Y
PAPRH	100	30	2,5	45	100+2,5	90	62	Y
POLCO	100	80	2,5	70	100+2,5	95	94	Y
TRZAW	25	10	10	0	25+10	0	10	safening
BROIN	25	30	10	80	25+10	90	86	Y
CHEAL	25	50	10	70	25+10	90	85	Y
PAPRH	25	30	10	65	25+10	80	76	Y
POLCO	25	65	10	80	25+10	95	93	Y
TRZAW	12,5	0	5	0	12,5+5	0	0	
ALOMY	12,5	20	5	40	12,5+5	65	52	Y
BROIN	12,5	30	5	60	12,5+5	75	72	Y
CHEAL	12,5	40	5	35	12,5+5	65	61	Y
LAMPU	12,5	30	5	45	12,5+5	65	62	Y
POLCO	12,5	65	5	80	12,5+5	95	93	Y
VERPE	12,5	75	5	55	12,5+5	95	89	Y

Picolinafen was used as the commercial formulation Pico (75%, WG).

Sulfosulfuron (B) was used as the commercial formulation Monitor (80%, WG).

Synergism was determined according to the Colby formula as specified in the description.

The combination (A) + (B) shows excellent activity against weeds and a good selectivity for crops (TRZAW).

Table 3:

	Post Emergence Treatment							
	solo application				combination		Synergism (A) + (B)	
	Picolinafen (A)		Flupyrsulfuron-Methyl (B)		(A) + (B)		expected	Synergism
weed	use rate g ai/ha	% activity	use rate g ai/ha	% activity	use rate g ai/ha	% activity	% activity	Y/N
TRZAW	100	15	10	0	100+10	0	15	safening
APESV	100	40	10	90	100+10	95	94	Y
LAMPU	100	75	10	85	100+10	98	96	Y
PAPRH	100	30	10	80	100+10	90	86	Y
TRZAW	100	15	5	0	100+5	0	15	safening
APESV	100	40	5	80	100+5	95	88	Y
CHEAL	100	80	5	45	100+5	90	89	Y
PAPRH	100	30	5	65	100+5	80	76	Y
TRZAW	100	15	2,5	0	100+2,5	0	15	safening
POLCO	100	80	2,5	40	100+2,5	95	88	Y
TRZAW	25	10	1,25	0	25+1,25	0	10	safening
MATIN	25	50	1,25	20	25+1,25	75	60	Y
POLCO	25	65	1,25	40	25+1,25	85	79	Y
VERPE	25	80	1,25	25	25+1,25	90	85	Y

Picolinafen was used as the commercial formulation Pico (75%, WG).

Flupyrsulfuron-Methyl (B) was used as the commercial formulation Lexus (50%, WG)

Synergism was determined according to the Colby formula as specified in the description.

The combination (A) + (B) shows excellent activity against weeds and a good selectivity for crops (TRZAW).